

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3899 (1981): Specification for Zineb Water Dispersible Powders [FAD 1: Pesticides and Pesticides Residue Analysis]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 3899 - 1981

REAFFIRMED

2002

Indian Standard

SPECIFICATION FOR ZINEB WATER
DISPERSIBLE POWDERS

(*First Revision*)

First Reprint FEBRUARY 2000

UDC 632.951 ZINEB : 632.981.2

© Copyright 1981

BUREAU OF INDIAN STANDARDS

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

NEW DELHI 110002

Gr 2

October 1981

Indian Standard

SPECIFICATION FOR ZINEB WATER DISPERSIBLE POWDERS

(*First Revision*)

Pest Control Sectional Committee, AFCD 6

<i>Chairman</i>	<i>Representing</i>
DR K. D. PAHARIA	Directorate of Plant Protection, Quarantine & Storage (Ministry of Agriculture), Faridabad
<i>Members</i>	
DR H. L. BAMI	Central Forensic Science Laboratory (Central Bureau of Investigation), New Delhi
DR B. BANERJEE	Tea Research Association, Calcutta
DR G. SATYANARAYANA (<i>Alternate</i>)	
DR N. K. BASU	The Alkali & Chemical Corporation of India Limited, Calcutta
SHRI S. R. NENE (<i>Alternate</i>)	
DR A. K. BHATNAGAR	Hindustan Insecticides Limited, New Delhi
SHRI C. C. ABRAHAM (<i>Alternate</i>)	
CHIEF CHEMIST	Central Revenues Control Laboratory (Ministry of Finance), New Delhi
SHRI S. KRISHNAMURTHY (<i>Alternate</i>)	
CHIEF PLANT PROTECTION OFFICER	Department of Agriculture, Government of Maharashtra, Bombay
CHEMIST INCHARGE, INSECTICIDES TESTING LABORATORY (<i>Alternate</i>)	
SHRI V. G. DESHPANDE	Ciba-Geigy of India Limited, Bombay
SHRI E. A. ALMEIDA (<i>Alternate</i>)	
SHRI OM P. DHAMIA	Export Inspection Council of India, New Delhi
SHRI P. P. RANGA RAO (<i>Alternate</i>)	
DR M. S. DHATT	National Malaria Eradication Programme, Delhi
DIRECTOR GENERAL, ARMED FORCES MEDICAL SERVICES	Directorate General Armed Forces Medical Services (Ministry of Defence), New Delhi
DIRECTOR OF AGRICULTURE	Department of Agriculture, Government of Uttar Pradesh, Lucknow
DEPUTY DIRECTOR (PLANT PROTECTION) (<i>Alternate</i>)	

(*Continued on page 2*)

● Copyright 1981

BUREAU OF INDIAN STANDARDS

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

IS : 3899 - 1981

(Continued from page 1)

<i>Members</i>	<i>Representing</i>
SHRI V. DORAIRAJ	Plastic Containers Sectional Committee, MCPD 11, ISI
DRUGS CONTROLLER (INDIA)	Indian Pharmacopoeia Committee (Ministry of Health and Family Welfare), New Delhi
SHRI M. RAVIKANT (Alternate)	Bombay Chemicals Private Limited, Bombay
SHRI G. D. GOKHALE	Punjab United Pesticides and Chemicals Limited, Chandigarh
SHRI V. V. KETKAR (Alternate)	Department of Agriculture, Government of Karnataka, Mysore
SHRI D. K. JAIN	
JOINT DIRECTOR OF AGRICULTURE (DEVELOPMENT & ICP)	
DEPUTY DIRECTOR OF AGRICULTURE (PLANT PROTECTION) (Alternate)	
DR M. G. JOTWANI	Entomology Division, Indian Agricultural Research Institute (ICAR), New Delhi
DR R. L. KALRA	Punjab Agricultural University, Ludhiana
DR R. P. CHAWLA (Alternate)	
DR KALYAN SINGH	Chander Sekhar Azad University of Agriculture & Technology, Kanpur
DR KRISHAN SINGH	Indian Institute of Sugarcane Research (ICAR), Lucknow
DR S. C. SRIVASTAVA (Alternate)	
DR K. KRISHNAMURTHY	Ministry of Agriculture (Department of Food), New Delhi
SHRI G. N. BHARDWAJ (Alternate)	
SHRI S. G. KRISHNAN	National Organic Chemical Industries Limited, Bombay
DR J. S. VERMA (Alternate)	
DR V. LAKSHMINARAYANA	Directorate of Plant Protection, Quarantine & Storage (Ministry of Agriculture), Faridabad
SHRI V. C. BHARGAVA (Alternate)	
SHRI S. K. LUTHRA	Directorate General of Technical Development, New Delhi
SHRI S. C. BAJAJ (Alternate)	
DR J. C. MAJUMDAR	BASF India Limited, New Delhi
DR B. P. CHANDRASEKHAR (Alternate)	
SHRI S. K. MAJUMDAR	Central Food Technological Research Institute (CSIR), Mysore
SHRI M. MUTHU (Alternate)	
SHRI O. N. MEHROTRA	Ministry of Defence (R & D)
SHRI M. G. CHATTERJEE (Alternate)	
SHRI K. S. MEHTA	Bharat Pulverising Mills Private Limited, Bombay
SHRI S. CHATTERJI (Alternate)	
SHRI L. S. MIRLE	Agromore Limited, Bangalore
SHRI S. K. RAMAN (Alternate)	
SHRI J. M. MODI	Pesticides Formulators Association of India (S.S.I.), Bombay
DR S. R. BAROOAH (Alternate)	
DR A. L. MOOKERJEE	Cyanamid India Limited, Bombay
SHRI J. P. PARIKH (Alternate)	

(Continued on page 7)

(Continued from page 2)

<i>Members</i>	<i>Representing</i>
DR S. K. MUKERJEE	Agricultural Chemicals Division, Indian Agricultural Research Institute (ICAR), New Delhi
DR N. K. ROY (<i>Alternate</i>)	
SHRI K. R. NARAYANA RAO	Food Corporation of India, New Delhi
SMT K. K. M. BHAVNANI (<i>Alternate</i>)	
SHRI I. NARSAREDDY	Department of Agriculture, Government of Andhra Pradesh, Hyderabad
SHRI C. DHARMA RAO (<i>Alternate</i>)	
SHRI G. NATARAJAN	Indofil Chemicals Limited, Bombay
DR V. N. NIGAM	Ministry of Defence (DGI)
SHRI P. N. AGARWAL (<i>Alternate</i>)	
SHRI M. M. PADALIA	Department of Agriculture, Government of Gujarat, Ahmadabad
SHRI R. G. JADEJA (<i>Alternate</i>)	
DR S. Y. PANDIT	Bayer (India) Limited, Bombay
SHRI C. G. DHARNE (<i>Alternate</i>)	
DR P. S. PHADKE	Sandoz (India) Limited, Thane
SHRI A. V. NATU (<i>Alternate</i>)	
SHRI S. M. PRADHAN	Metal Containers Sectional Committee, MCPD 12, ISI
SHRI Y. A. PRADHAN	Rallis India Limited, Bombay
DR Z. J. KAPADIA (<i>Alternate</i>)	
SHRI D. N. V. RAO	Tata Chemicals Limited, Mithapur
SHRI C. NEELKANTAN (<i>Alternate</i>)	
REPRESENTATIVE SECRETARY	Pesticides Association of India, New Delhi Central Insecticides Board, Directorate of Plant Protection, Quarantine & Storage (Ministry of Agriculture), Faridabad
DR R. C. GUPTA (<i>Alternate</i>)	
SHRI A. C. SHROFF	Excel Industries Limited, Bombay
SHRI P. V. KANGO (<i>Alternate</i>)	
DR K. S. SINGH	Indian Veterinary Research Institute (ICAR), Izatnagar
SHRI S. C. SRIVASTAVA (<i>Alternate</i>)	
SHRI N. S. VENKATARAMAN	Department of Agriculture, Government of Tamil Nadu, Madras
DR R. V. VENKATARATNAM	Regional Research Laboratory (CSIR), Hyderabad
DR NAGABUSHAN RAO (<i>Alternate</i>)	
DR P. R. VENKATESWARAN	Union Carbide (India) Limited, New Delhi
DR K. N. SHRIVASTAVA (<i>Alternate</i>)	
SHRI E. R. VICCAJEE	Paper and Flexible Packaging Sectional Committee, MCPD 14, ISI
SHRI N. G. WAGLE	Pest Control (India) Private Limited, Bombay
SHRI M. R. BAJIKAR (<i>Alternate</i>)	
DR B. L. WATTAL	National Institute of Communicable Diseases, Delhi
SHRI G. C. JOSHI (<i>Alternate</i>)	
SHRI T. PURNANANDAM, Director (Agri & Food)	Director General, ISI (<i>Ex-officio Member</i>)

Secretary

SHRI M. L. KUMAR

Deputy Director (Agri & Food), ISI

AMENDMENT NO. 1 JUNE 1988
TO
IS:3899-1981 SPECIFICATION FOR ZINEB WATER
DISPERSIBLE POWDERS

(First Revision)

(Page 4, Table 1) - Add the following Note at the end of the table:

'Note - The material shall not be subjected to accelerated storage treatment if it has crossed half of its shelf life as ascertained from its date of manufacture and date of expiry declared on the container.'

(AFCD 6)

**AMENDMENT NO. 2 MAY 1994
TO
IS 3899 : 1981 SPECIFICATION FOR ZINEB WATER
DISPERSIBLE POWDERS**

(First Revision)

(Page 4 Table 1):

- a) SI No. (ii), col 2 }
b) SI No. (iii), col 2 } — Delete the words 'after accelerated storage'.

(Page 6, clause 4.1) — Substitute the following for the existing:

'When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 : 1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627 : 1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause 2.2.1 of the standard.'

(FAD 1)

Printed at New India Printing Press, Khurja, India

Indian Standard
SPECIFICATION FOR ZINEB WATER
DISPERSIBLE POWDERS
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 28 July 1981, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council.

0.2 Zineb water dispersible powder is used for the control of diseases of plants.

0.3 Zineb water dispersible powder is generally manufactured to contain 75 percent (*m/m*) zineb content.

0.4 This standard was first published in 1966. Subsequently four amendments were issued. The present revision incorporates latest packing and marking requirements and additional requirements like zinc. Opportunity has been taken to give references for test methods as given in IS : 6940 - 1973* for the sake of uniformity.

0.5 In the preparation of this standard, due consideration has been given to the provisions of the Insecticides Act, 1968 and the Rules framed thereunder. However, this standard is subject to the restrictions imposed under these, wherever applicable.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2 - 1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Methods of tests for pesticides and their formulations.

†Rules for rounding off numerical values (*revised*).

IS : 3899 - 1981

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for zineb water dispersible powders.

2. REQUIREMENTS

2.1 Description — The material shall be in the form of homogeneous powder, creamy in colour and shall wet readily on mixing with water providing a suspension suitable for use as a spray.

2.1.1 Zineb, technical employed in the manufacture of this material shall conform to IS : 3898-1981*.

2.2 The material shall also comply with the requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR ZINEB WATER DISPERSIBLE POWDERS

Sl. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO		
			Appendix of IS : 3898-1981*	Cl. No. of IS : 6940-1973†	Appendix of IS : 8707-1978‡
(1)	(2)	(3)	(4)	(5)	(6)
i)	Zineb content, percent by mass	Nominal value as declared on the container (see 2.2.1)	A	—	—
ii)	Sieving requirement, material passing through 45-micron IS Sieve [see IS : 460 (Part I)-1978 §] after-accelerated storage, percent by mass, <i>Min</i>	99	—	11.1	—
iii)	Suspensibility after accelerated storage, percent by mass, <i>Min</i>	50	—	11.2	—
iv)	Wettability	120 Sec	—	11.4	—
v)	Zinc content of zineb, percent by mass	22.0 to 24.0	—	—	B

*Specification for zineb, technical (*first revision*).

†Methods of tests for pesticides and their formulations.

‡Specification for mancozeb, technical.

§Specification for test sieves : Part I Wire cloth test sieves (*second revision*). BS test sieve 350, ASTM test sieve 325 and Tyler test sieve 325 have their apertures within the limits specified for the above IS test sieve and may, therefore, be used as 45-micron IS Sieve.

*Specification for zineb, technical (*first revision*).

2.2.1 When determined by the method prescribed in Appendix A of IS : 3898 - 1981*, the observed zineb content shall not differ from the declared nominal value by more than appropriate tolerances as given below :

<i>Nominal Value, Percent</i>	<i>Tolerance Limits, Percent</i>
Up to 9	+ 10 } - 5 }
above 9 and below 50	± 5 } Of the nominal value
50 and above	+ 5 } - 3 }

2.2.1.1 The actual value of the zineb content in the formulation shall be calculated to the second decimal place for rounding off to first decimal place before applying the tolerances given in 2.2.1.

2.2.1.2 The average content of all samples taken shall not be lower than the nominal content.;

3. PACKING AND MARKING

3.1 Packing — The material shall be packed as per requirements given in IS : 8190 (Part I) - 1980†.

3.2 Marking — The containers shall bear legibly and indelibly the following information and any other additional information as is necessary under the Insecticides Act and the Rules :

- a) Name of the material ;
- b) Name of the manufacturer ;
- c) Date of manufacture ;
- d) Batch number ;
- e) Net mass of contents ;
- f) Nominal zineb content, percent (*m/m*); and
- g) The minimum cautionary notice as worded in Insecticides Act and Rules.

*Specification for zineb, technical (*first revision*).

†Requirements for packing of pesticides : Part I Solid pesticides (*first revision*).

IS : 3899 - 1981

3.2.1 The containers may also be marked with the Standard Mark. Mark.

3.2.2 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

4. SAMPLING

4.1 Representative samples of the material shall be drawn as prescribed in 'Indian Standard methods for Sampling of pesticides and their formulations' (*under preparation*).

NOTE — Till such time the standard under preparation is published, the samples shall be drawn as agreed to between the concerned parties.

5. TESTS

5.1 Tests shall be carried out by the methods as prescribed in col 4, 5 and 6 of Table 1.

5.2 Quality of Reagents — Unless specified otherwise, pure chemicals and distilled water (*see IS : 1070-1977**) shall be employed in the tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Specification for water for general laboratory use (*second revision*).

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones: 323 0131, 323 3375, 323 9402

Fax : 91 11 3234062, 91 11 3239399, 91 11 3239382

Telegrams : Manaksanstha
(Common to all Offices)

Central Laboratory:

Plot No. 20/9, Site IV, Sahibabad Industrial Area, SAHIBABAD 201010

Telephone
8-77 00 32

Regional Offices:

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002	323 76 17
*Eastern : 1/14 CIT Scheme VII M, V.I.P. Road, Maniktola, CALCUTTA 700054	337 86 62
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022	60 38 43
Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600113	235 23 15
†Western : Manakalaya, E9 Behind Marol Telephone Exchange, Andheri (East), MUMBAI 400093	832 92 95

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur, AHMEDABAD 380001	550 13 48
‡Peenya Industrial Area, 1st Stage, Bangalore - Tumkur Road, BANGALORE 560058	839 49 55
Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar, BHOPAL 462003	55 40 21
Plot No. 62-63, Unit VI, Ganga Nagar, BHUBANESHWAR 751001	40 36 27
Kalaikathir Buildings, 670 Avinashi Road, COIMBATORE 641037	21 01 41
Plot No. 43, Sector 16 A, Mathura Road, FARIDABAD 121001	8-28 88 01
Savitri Complex, 116 G. T. Road, GHAZIABAD 201001	8-71 19 96
53/5 Ward No. 29, R. G. Barua Road, 5th By-lane, GUWAHATI 781003	54 11 37
5-8-58C, L. N. Gupta Marg, Nampally Station Road, HYDERABAD 500001	20 10 83
E-52, Chitaranjan Marg, C-Scheme, JAIPUR 302001	37 29 25
117/418 B, Sarvodaya Nagar, KANPUR 208005	21 68 76
Seth Bhawan, 2nd Floor, Behind Leela Cinema, Naval Kishore Road, LUCKNOW 226001	23 89 23
Pattiputra Industrial Estate, PATNA 800013	26 23 05
T. C. No. 14/1421, University P. O. Palayam, THIRUVANANTHAPURAM 695034	6 21 17
NIT Building, Second Floor, Gokulpat Market, NAGPUR 440010	52 51 71
Institution of Engineers (India) Building, 1332 Shivaji Nagar, PUNE 411005	32 36 35

*Sales Office is at 5 Chowringhee Approach, P. O. Princep Street,
CALCUTTA 700072 27 10 85

†Sales Office is at Novelty Chambers, Grant Road, MUMBAI 400007 309 65 28

‡Sales Office is at 'F' Block, Unity Building, Narashimaraja Square,
BANGALORE 560002 222 39 71